DOCUMENT RESUME

ED 281 662 PS 016 531

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TITLE Emotional Family Resemblances? Darwin's Contributions to a Theory of Emotions and Emotional Development.
PUB DATE Apr 87
NOTE 11p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Baltimore, MD, April 23-26, 1987).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Classification; *Emotional Development; *Emotional Response; *Evolution; Research Problems; Theories
IDENTIFIERS *Darwin (Charles); Theoretical Analysis; *Wittgenstein (Ludwig)

ABSTRACT

A family resemblance model of emotions is proposed which uses Darwin's discussion of emotions and Eleanor Rosch's and the philosopher Ludwig Wittgenstein's work on family resemblances. In Darwin's discussion of emotions, certain core features are thought to be widely shared by the members of the respective families of emotions, and more marginal features are shared by only a few members of each family. This approach to emotions is very similar to Rosch's conception of physical object concepts as entities having a high degree of internal structure and boundaries which are not well-defined. It is suggested here that the adoption of the family resemblances perspective renders emotions no more difficult to define than physical objects. Emotions sharing many of the features of an emotional family are more prototypical of the respective family (and therefore recognized and labeled more easily), than are weaker features and expressions of the same emotions. Additional variations in labeling would depend on the intensity of emotional expressions and of the stimulus conditions, on qualitative differences in stimuli, and on the complexity of the emotional expressions. It is surmised that children's early nonverbal emotional development and their learning of emotional language may occur in contexts in which highly prototypical members of the various emotional families are expressed. (RH)

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ED281662

EMOTIONAL FAMILY RESEMBLANCES? DARWIN'S CONTRIBUTIONS TO A THEORY OF EMOTIONS AND EMOTIONAL DEVELOPMENT

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During the past two decades, psychologists have shown a renewed interest in emotions and emotional development. Emotions have become recognized as the neglected domain of developmental psychology. A catch-all definition by the philosopher Alston may help us to understand why emotions are the last area of the mind to be conquered by developmental psychologists. Alston suggests to conceive of each emotion as

"1. A cognition of something as in some way desirable or undesirable.
2. Feelings of certain kinds.
3. Marked bodily sensations of certain kinds.
4. Involuntary bodily processes and overt expressions of certain kinds.
5. Tendencies to act in certain ways.
6. An upset or disturbed condition of mind or body."

Emotions have been so controversial, because no philosopher or psychologist has tried to deal with all of these components at once. Instead, attempts have been made to reduce emotions to cognitive states, to feelings, to physiological conditions of the body, or to physical or mental disequilibria. However, investigators in search of universal physiological, expressive, introspective or cognitive criteria in terms of which to identify and define emotions have been mostly unsuccessful. As a result, developmental theorists stayed away from emotions as an area of theory and research.

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I am going to suggest in this paper that there may be hope for a developmental theory of emotions if we abandon the search for universal criteria in terms of which to define emotions. I will proceed by sketching Eleanor Rosch's and the philosopher Ludwig Wittgenstein's work on family resemblances. Using Darwin's discussion of emotions, I will propose a family resemblance model of emotions. I will point out how some of the traditional problems of theory and research on emotions can be avoided if we conceive of emotions as having a family resemblance structure. Finally, I will sketch a few consequences of this approach for the study of children's understanding and labeling of their own and others' emotions.

Rosch has made a case against the search for criterial features in the realm of physical object concepts. She said in an article on "Family resemblances..."

"...much work in philosophy, psychology, linguistics and anthropology assumes that categories are logical bounded entities, membership in which is defined by an item's possession of a simple set of criterial features, in which all instances possessing the criterial attributes have a full and equal degree of membership.."

Instead, Rosch argues with the philosopher Ludwig Wittgenstein

"that the referents of a word need not have common elements in order for the word to be understood and used in the normal functioning of language. Wittgenstein suggested that, rather, a family resemblance might be what linked the various referents of a word. A family resemblance relationship consists of a set of items of the form AB, BC, CD, DE. That is, each item has at least one, and probably several, elements in common with one or more other items, but no, or few, elements are common to all items."

Furthermore, according to Rosch,

"psychological and linguistic research has tended to treat categories as though they were internally unstructured - that is, as though they were composed of undifferentiated, equivalent instances - and as though category boundaries were always well-defined."

Instead, her contention is,

"that most "real" categories are highly structured internally and do not have well-defined boundaries."

She defines "internal structure" as follows,

"categories are composed of a "core meaning" which consists of the clearest cases" (best exemplars) of the category, "surrounded" by other category members of decreasing similarity to that core meaning."

Or, as Rosch puts it,

"members of a category come to be viewed as prototypical of the category as a whole in proportion to the extent to which they bear a family resemblance to (have attributes which overlap those of other members of the category). Conversely, items viewed as most prototypical of one category will be those with leat family resemblance to or membership in other categories."

This analysis can also be applied to the emotional domain as I will show in the following analysis of Darwin's work on "Emotions in Man and Animals".

Darwin's discussion of emotions has been very influential, because it represents the broadest perspective one can possibly take toward the investigation of emotions: he studied animals' as well as children's, adults' and abnormal populations's emotions, and children's and adults' emotions also cross-culturally. Furthermore, Darwin focused not only on the facial expression of various emotions, but also on other body gestures that are significant components of a variety of emotional expressions.

One of Darwin's most important contributions to the discussion of emotions and emotional development is his conception of emotions in terms of groups or families. According to Darwin's analysis, the emotional domain

can be subdivided in terms of at least seven groups of emotions that are highly distinct from each other, but internally structured around a core set of features, such as smiling, laughing, crying, blushing, frowning or even smaller facial movements. Following Rosch's analysis, I suggest to consider core features as the most salient features or as those features shared by most members of a family. The less salient or less frequently occurring features may be considered as more marginal or secondary.

Darwin distinguishes between the following seven groups of emotions:

I Suffering, Weeping, Low Spirits, Anxiety, Grief, Dejection, and Dispair

Darwin suggests that oblique brows and downward turned corners of the mouth are common to all of these emotional states. I propose to think of these features as core features. Other characteristics, such as the writhing of the whole body or the screams and groans of somebody in a lot of pain, are less common in the group as a whole. These features may therefore be considered as more marginal, and as less defining of the group as a whole.

A second group of emotions Darwin discusses together are:

II Joy, High Spirits, Love, Tender Feelings, and Devotion

The characteristics most common to this group of emotional states are bright, sparkling eyes, and corners of the mouth that are turned upward in a smile or laugh. More marginal, less frequent expressive features in this emotional family are purposeless movements, dancing about or clapping the hands in intense joy.

A third group of emotional states Darwin considers together are:

III Reflection, Meditation, Ill-Temper, Sulkiness, and Determination

He describes a frown or vertical furrows of the forehead as characeristic of all the members of this family. He implies a firmly closed mouth as a less prominent but important feature characteristic only of sulkiness and determination. Finally, he suggests a few features as less common to the group as a whole: Raising a hand to the forehead in meditation, keeping the shoulders raised and folding the arms across the breast in determination are cases in point.

The fourth group:

IV Hatred, Anger, Rage, Sneering, and Defiance

share a closed or compressed mouth and a frown. Frantic gestures, a red or purple face, the raising of arms or fist to attack and hurried respiration are features less common in the group as a whole, but they are occasional signs of extreme states of rage.

V Disdain, Contempt, and Disgust

the fifth family of emotions share the raising of one corner of the mouth slightly uncovering a canine tooth. Less common are the turning away of the whole body in disdain, or holding the face a little upturned in defiance, or spitting in extreme disgust.

VI Surprise, Astonishment, Fear, and Terror

the sixth group, share wide-open eyes and a wide-open mouth, raised eyebrows and a transversely wrinkled forehead. Less common features are placing the hand over the mouth in astonishment, the raising of the open hands high above the head in surprise, and screams of terror or horror.

The members of the seventh family,

VII Self-Attention, Shame, Shyness, and Modesty

share blushing and a tendency toward gaze aversion. Restless movements also seem to be characteristic of many family members. Stammering

inappropriate remarks, and the turning away of the whole body seem to be less common.

Similar to Rosch's families of physical object concepts, Darwin's emotional groupings are "families of emotions" rather than sets that could be defined in terms of distinctive features shared by all members, because not all members of a family have every single feature in common. Emotion A may share some features with emotion B, emotion B, however, may share different features with emotion C. Emotion C may share some features with emotion A, but not with B and so on.

The advantage of this account of the differences between various emotions lies in the order it provides. Instead of a conception of the emotional domain as a chaotic area characterized in terms of endless unsystematic variations, the proposed view suggests that there is only a small group of families of emotions each distinguishable in terms of a small set of core features. Furthermore it can be argued that even the variations within these families are of a systematic nature that can be formalized in terms of core features plus certain more variable or secondary features that are not shared by the whole family.

Additional differentiations within the respective emotional families can be made based on the expressive intensity of the emotions in question, and based on the intensity of the stimuli eliciting them. Differences in stimulus quality have to be taken into account as well. These distinctions help to further define core and marginal features. High expressive intensity may make an emotion a more prototypical member of its family. Stimulus intensity and stimulus quality may add marginal features allowing for more subtle distinctions between emotional family members.

As to the role expressive intensity can play: Darwin distinguishes between dislike and hatred, between indignation, anger and rage, between terror and fear, and between surprise, attention and astonishment mostly in terms of the intensity of the facial expressions used to express these emotions. He talks about the "gradation" from dislike into hatred, and proposes that the differences between indignation, anger and rage are only in degree, and he calls terror "extreme fear".

As far as stimulus intensity is concerned, Darwin suggests that hatred, disdain and contempt can be distinguished in terms of the degree of importance of the hated person; less important people tend to elicit disdain or contempt, whereas more important ones tend to bring about hatred.

Finally, a very good example of a qualitative difference in stimulus conditions bringing about a difference in emotion is Darwin's distinction between horror, fear and terror. Darwin suggests that horror can be experienced and expressed only - as opposed to fear and terror - when the eliciting stimulus involves a dangerous situation for somebody else rather than the self.

In addition to all of the aforementioned distinctions, it seems to be necessary to talk about differences in the complexity of emotions. Darwin's discussion suggests that there are certain more genuinely human emotions that are more complex than the emotions that can be conceived of as members of the various emotional families. They may be second-order recombinations of the first-order, fairly simple emotional families, using the features of these emotional families as building blocks.

Darwin's prime examples of this category of emotions are love, sympathy, admiration and devotion. Sympathy is considered as a combination of affection and joy, devotion as a blend of affection, reverence

and fear, and admiration as a combination of surprise, pleasure and approval. Love is portrayed as a combination of joy and a tendency to touch as expression of affection.

This proposal for a conception of the more complex emotions as blends of other more simple emotions is interesting, because it suggests that the evolutionary younger, more human emotions are more complex recombinations of simpler, older, "animal" emotions, and show therefore more flexibility in the expressions used to convey them and in the contexts that elicit them.

What does this analysis of emotions in terms of family resemblances contribute to debates about the feasibility of writing a theory of emotions and emotional development? It suggests that emotional concepts are not necessarily harder to define than physical object concepts. Emotional and physical object concepts can be described in terms of a family resemblance structure. Emotions are organized as families the way physical objects are. The members of each family vary in the degree of their representativeness. The best or most prorotypical exemplars are those that share the most features with other family members. The worst members are the ones sharing the fewest features with other family members. All this suggests that emotional concepts are no less clear than physical object concepts. As a result, it should not be any more difficult to theorize about emotional than about cognitive development.

Some of the traditional concerns about research and theory on emotions had to do with the reliability and validity of the language used to refer to various emotional states. One theorist would call joy what another called happiness. Or hate and anger were used to describe identical phenomena. Darwin's account suggests that we may be justified in using

some of these terms synonymously if they refer to identical or highly related members of the various emotional families. On the other hand, Darwin helps to explain the differences in the use of some of these terms by introducing his implicit distinction between core and marginal features.

Emotional expressions combining all the core features of an emotional family may be recognized and labeled more easily as a member of the family than less prototypical emotional expressions consisting of fewer core features or only marginal features. As we could see many members of the emotional families Darwin describes may share one or two core features, but they may differ in more marginal, secondary features. The variations in secondary features may determine whether hate, rage, anger or indignation is used to refer to somebody's emotional state. And the differences between hate, rage and anger may be similar to those between an oak tree, a maple tree and a beech tree.

This discussion may be most useful in helping us to comprehend how children first come to understand others' emotions, and how they acquire emotional language to describe their own and others' emotions. Children's early nonverbal emotional development and their learning of emotional language may occur in contexts in which highly prototypical or highly representative members of the various emotional families are expressed.

Children may understand their parents' and other people's nonverbal emotional expressions better if they closely resemble the prototype of an emotional family. In other words, children may be able to decode their parents' clear and strong expressions of happiness and anger more easily than weaker, less prototypical expressions of the same emotions. In a similar fashion, children may learn to label their own and others' emotions more easily if they are introduced to emotional language when they

themselves or other people express emotions in a highly prototypical fashion. Conversely, children may have a harder time learning to label their own and others' emotions when adults choose to introduce emotional language in the presence of less prototypical emotional exemplars. It would be interesting to explore whether children do in fact first learn to label their own and others' emotions when they are exposed to highly prototypical expressions of the various emotional families.

In sum, I hope to have stimulated a theoretical debate about a conception of the emotional domain in terms of families of emotions, and its implications for a model of children's developing understanding of nonverbal emotional expressions and emotional language.